

Article Information Sheet

Product name: Lithium Battery

Printing date: 2023-06-21

Fiche d'information Article

Nom du produit: Batterie au Lithium

Date d'impression: 2023-06-21

Article Information Sheet (AIS)

This Article Information Sheet (AIS) provides relevant battery information to retailers, consumers, OEMs and other users requesting a GHS - compliant SDS. Articles, such as batteries, are exempt from GHS SDS classification criteria. The GHS criteria is not designed or intended to be used to classify the physical, health and environmental hazards of an article. Branded consumer batteries are defined as electro - technical devices. The design, safety, manufacture, and qualification of Energizer branded consumer batteries follow ANSI and IEC battery standards.

1. DOCUMENT INFORMATION

Product name	Lithium Battery
Model	CR2032
Issue Date	2023-06-21

2. COMPANY INFORMATION

Company name(China)	Wuhan Lixing (Torch) Power Sources Co.,Ltd.
Address	Guandong Industrial Park, East Lake High Technology DEV Zone, Wuhan, Hubei, China
E-mail	jingc@lisun.com
Telephone	86-027-87785520

3. ARTICLE INFORMATION

Description	Lithium Battery
Use	Primary Li-metal cell
Brand	----

Fiche d'information sur l'article (AIS)

Cette fiche d'information Article (AIS) fournit des informations sur la batterie correspondant aux détaillants, aux consommateurs, aux OEM et aux autres utilisateurs qui demandent un SDS SGH-conforme. Les articles, tels que les piles, sont exemptés de critères de classification SGH SDS. Les critères du SGH ne sont pas conçus ou destinés à être utilisés pour classer les risques physiques, la santé et l'environnement d'un article. batteries de consommation de marque sont définis comme des dispositifs électro-technique. La conception, la sécurité, la fabrication, et la qualification des batteries de consommation de marque Energizer sont conformes aux normes de la batterie ANSI et IEC.

1. DOCUMENT D'INFORMATION

Produit Nom	Batterie au Lithium
Modèle	CR2032
Date d'émission	2023-06-21

2. INFORMATIONS SUR LA SOCIÉTÉ

Nom de l'entreprise (Chine)	Wuhan Lixing (Torch) Power Sources Co.,Ltd.
Adresse	Guandong Industrial Park, East Lake High Technology DEV Zone, Wuhan, Hubei, China
Email	jingc@lisun.com
Téléphone	86-027-87785520

3. ARTICLE D'INFORMATION

La description	Batterie au Lithium
Utilisation	Cellule primaire li-métal
Marque	----

Article Information Sheet

Product name: Lithium Battery

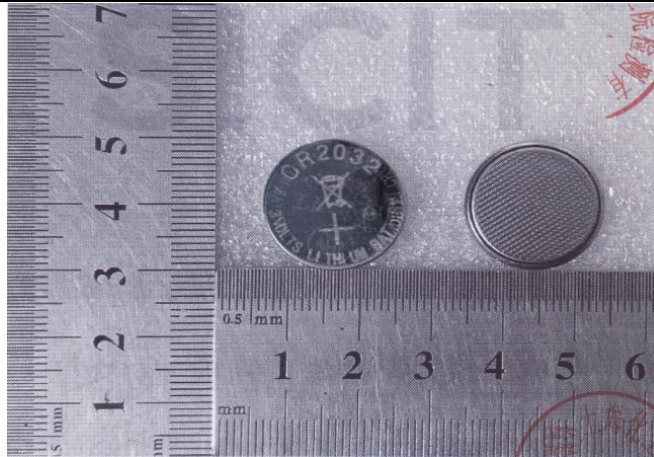
Printing date: 2023-06-21

Fiche d'information Article

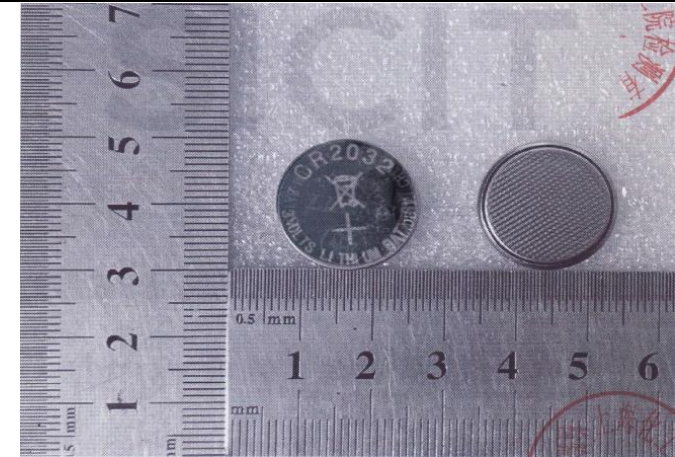
Nom du produit: Batterie au Lithium

Date d'impression: 2023-06-21

Image



Image



4. ARTICLE CONSTRUCTION

IMPORTANT NOTE: The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

Chemical name	CAS No.	Concentration%
Lithium	7439-93-2	1.8
Manganese Dioxide	1313-13-9	26.8
Lithium perchlorate	7791-03-9	0.9
Graphite	7782-42-5	2.0
Ethylene glycol dimethy	110-71-4	1.7
Propylene carbonate	108-32-7	6.5
Stainless steel	12597-68-1	47.1
Polypropylene	9003-07-0	4.7
Poly(tetrafluoroethylene) PTFE	9002-84-0	1.5
Ethylene carbonate(EC)	96-49-1	0.6
Diethyl carbonate(DEC)	105-58-8	3.2
Dimethyl carbonate	616-38-6	3.2

4. ARTICLE CONSTRUCTION

REMARQUE IMPORTANTE: La batterie ne doit pas être ouverte ou brûlée. L'exposition aux ingrédients contenus dans leurs produits ou de combustion pourrait être nocif.

Nom chimique	N ° CAS.	Concentration%
Lithium	7439-93-2	1.8
Dioxyde de manganèse	1313-13-9	26.8
Perchlorate de Lithium	7791-03-9	0.9
Graphite	7782-42-5	2.0
Diméthie d'éthylène glycol	110-71-4	1.7
Carbonate de propylène	108-32-7	6.5
Acier inoxydable	12597-68-1	47.1
Polypropylène	9003-07-0	4.7
Poly(tétrafluoroéthylène) PTFE	9002-84-0	1.5
Carbonate d'éthylène (EC)	96-49-1	0.6
Carbonate de diéthyle (DEC)	105-58-8	3.2
Carbonate de diméthyle	616-38-6	3.2

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5. HEALTH AND SAFETY

Ingestion	Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. May cause an allergic skin reaction.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give

5. SANTÉ ET SÉCURITÉ

Ingestion	Ne pas faire vomir. Se rincer la bouche et boire beaucoup d'eau. Ne portez rien à la bouche d'une personne inconsciente. Appeler un centre de contrôle médecin ou de poison
Inhalation	À l'air frais. Si la respiration est arrêtée, pratiquer la respiration artificielle. Consulter un médecin immédiatement. Ne pas utiliser le bouche-à-bouche si la victime a ingéré ou inhalé la substance; pratiquer la respiration artificielle à l'aide d'un masque de poche muni d'une valve à une voie ou d'un autre appareil médical approprié. Si la respiration est difficile, (du personnel qualifié devrait) donner de l'oxygène. œdème pulmonaire retardé peut se produire. Consulter un médecin si des symptômes apparaissent.
Contact avec la peau	Laver immédiatement avec du savon et beaucoup d'eau tout en enlevant les vêtements contaminés et les chaussures. Une attention médicale immédiate est nécessaire. Peut provoquer une réaction allergique cutanée.
Lentilles de contact	Rincer immédiatement et abondamment avec de l'eau, y compris sous les paupières, pendant au moins 15 minutes. Gardez l'œil ouvert pendant le rinçage. Ne pas frotter les zones touchées. lentilles de contact Retirer, si elle est présente et facile à faire. Continuer à rincer. Consulter un / des conseils médicaux immédiats.
Auto-protection du secouriste	Veiller à ce que le personnel médical sont au courant de la matière (s) impliqués, prendre des précautions pour se protéger et prévenir la propagation de la contamination. Éviter tout contact avec la peau, les yeux ou les vêtements. Éviter tout contact direct avec la peau. Utilisez barrière pour donner la respiration

Article Information Sheet

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mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8)

artificielle bouche-à-bouche. Utiliser un équipement de protection individuel requis. Porter des vêtements de protection individuelle (voir la section 8).

6. FIRE HAZARD & FIREFIGHTING

6. RISQUE D'INCENDIE & POMPIERS

Fire Hazard	Batteries may rupture or leak if involved in a fire.
Extinguishing Media	Use any extinguishing media appropriate for the surrounding area.
Special hazards arising from the chemical	In case of fire where lithium batteries are present, flood area with water or smother with a Class D fire extinguishant appropriate for lithium metal, such as Lith-X. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. A smothering agent will extinguish burning lithium batteries.
Precautions for fire-fighters	Emergency Responders should wear self-contained breathing apparatus. Burning lithium manganese dioxide batteries produce toxic and corrosive lithium hydroxide fumes.

Risque d'incendie	Les piles peuvent se rompre ou fuir si elle est impliquée dans un incendie.
Moyens d'extinction	Utilisez tous les moyens d'extinction appropriés pour la région environnante
Dangers particuliers résultant de la substance chimique	En cas d'incendie où des batteries au lithium sont présents, zone inondable avec de l'eau ou avec un ÉTOUFFER approprié incendie Classe d'extinction D pour le métal de lithium, comme Lith-X. L'eau ne peut pas éteindre les piles qui brûlent mais refroidir les batteries adjacentes et contrôler la propagation du feu. Les piles qui brûlent va se brûler. Pratiquement tous les feux impliquant des piles au lithium peuvent être contrôlées par les inondations avec de l'eau. Cependant, le contenu de la batterie réagiront avec l'eau et sous forme d'hydrogène gazeux. Dans un espace confiné, le gaz d'hydrogène peut former un mélange explosif. Dans cette situation, les agents étouffants sont recommandés. Un agent étouffant éteindra la combustion des batteries au lithium.
Précautions à prendre pour les pompiers	Équipe d'intervention doivent porter un appareil respiratoire autonome. La combustion des piles de dioxyde de manganèse au lithium produisent toxique et corrosive fumées lithium hydroxyde

7. HANDLING AND STORAGE

7. MANIPULATION ET STOCKAGE

Storage	Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life. In locations that handle large
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Fiche d'information Article

Nom du produit: Batterie au Lithium

Date d'impression: 2023-06-21

quantities of lithium batteries, such as warehouses, lithium batteries should be isolated from unnecessary combustibles

Handling Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly. Batteries may rupture or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batterie in accordance with equipment instructions.

Spills of Large Quantities Batteries (unpackaged) Notify spill personnel of large spills. Irritating and flammable vapors may be released from leaking or ruptured batteries. Spread batteries apart to stop shorting. Eliminate all ignition sources. Evacuate area and allow vapors to dissipate. Clean-up personnel should wear appropriate PPE to avoid eye and skin contact and inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in appropriate container for disposal. Remove any spilled liquid with absorbent material and contain for disposal.

8. DISPOSAL CONSIDERATIONS

Dispose of used (or excess) batteries in compliance with federal, state/provincial and local regulations. Do not accumulate large quantities of used batteries for disposal as accumulations could cause batteries to short-circuit. Do not incinerate. In countries, such as Canada and the EU, where there are regulations for the collection and recycling of batteries, consumers should dispose of their used batteries into the collection network at municipal depots and retailers. They should not dispose of batteries with household trash.

9. Transport information

The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association,

Espace rangement De Conserver dans un endroit frais et bien ventilé. Les températures élevées peuvent entraîner dans la vie de la batterie raccourcie. Dans les endroits qui traitent de grandes quantités de Les piles au lithium, tels que les entrepôts, les batteries au lithium doivent être isolés à partir de combustibles inutiles.

Manipulation Éviter les abus mécaniques et électriques. Ne pas court-circuiter ou installer correctement. Les piles peuvent se rompre ou de ventilation si elles sont démontées, écrasées, rechargées ou exposé à une forte températures. Installez les piles conformément aux instructions du fabricant.

Déversements de grandes quantités Batteries(non fuites ou les piles endommagées. Piles écarter pour arrêter les emballés) Informer le personnel de déversement de grands déversements. Irritant et vapeurs inflammables peuvent être libérés de courts-circuits. éliminer tous les sources d'allumage. Évacuer la zone et laisser les vapeurs se dissipent. Le personnel de nettoyage devrait porter des EPI appropriés pour éviter les yeux et contact avec la peau et l'inhalation des vapeurs ou fumées. Augmenter la ventilation. batteries cueillent et les placer dans un récipient approprié pour disposition. Retirez tout liquide déversé avec une matière absorbante et contiennent pour l'élimination.

8. CONSIDERATIONS RELATIVES À L'ÉLIMINATION

Jetez les piles usagées (ou excédent) conformément aux règlements fédéraux, provinciaux / provinciaux et locaux. Ne pas accumuler de grandes quantités de piles

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International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment:

1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations.
2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185.
3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule) Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

(a) UN number 3090&3091

(b) UN Proper shipping name LITHIUM METAL BATTERIES (including Lithium Primary Batteries) or;
LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT (including Lithium Primary Batteries) or
LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT (including Lithium Primary Batteries)

(c) Transport hazard class(es) 9

(d) Packing group (if applicable) II

(e) Marine pollutant(Yes/No) No

(f) Transport in bulk No information available.

(according to Annex II of

usagées pour l'élimination comme accumulations pourraient provoquer un court-circuit. Ne pas incinérer. Dans les pays, comme le Canada et l'Union européenne, où il existe des règlements pour la collecte et le recyclage des batteries, les consommateurs devraient disposer de leurs piles usagées dans le réseau de collecte dans les dépôts municipaux et les détaillants. Ils ne doivent pas jeter les piles avec les ordures ménagères.

9. Informations de transport

Le transport des piles au lithium primaire et les batteries est réglementé par l'Organisation internationale de l'aviation civile, l'Association internationale du transport aérien, Code maritime international des marchandises dangereuses et le Département américain des Transports. Les batteries doivent répondre aux critères suivants pour l'expédition:

1. les livraisons d'air doivent satisfaire aux exigences énumérées à disposition spéciale A45 de l'Association internationale du transport aérien des marchandises dangereuses Règlement.
2. Répondre aux exigences du ministère américain des Transports répertoriés dans 49 CFR 173,185.
3. Le transport des piles au lithium primaire est interdit à bord des avions de passagers. Reportez-vous au Registre fédéral de 15 Décembre 2004 (matières dangereuses, interdites sur le transport des piles au lithium primaire et cellules Aboard passagers d'avion Règle finale) Les piles au lithium expédiés comme « batteries au lithium », « Les piles au lithium emballées avec un équipement » ou « piles au lithium contenues dans l'équipement » ne peuvent pas être considérés comme des « marchandises dangereuses » lorsqu'ils sont expédiés conformément à la « disposition A45 spéciale de IATA-DGR » ou " disposition spéciale 188 du code de l'OMI-IMDG »

(A) Numéro ONU 3090&3091

Article Information Sheet

Fiche d'information Article

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MARPOL 73/78 and the IBC

Code)

(g) Special precautions No information available.

(h) Organizations governing the transport of lithium batteries	Area	Method	Organization	Special Provision
	U.S.A	Air, Rail, Road, Marine	DOT	49 CFR Section 173.185

10. REGULATORY INFORMATION

(a) Safety, health and environmental regulations specific for the product in question

CAS No	USA TSCA	EU EINECS	Japan ENCS	Korea ECL	China IECSC	Canada DSL
7439-93-2	Listed	Listed	Listed	Listed	Listed	Listed
1313-13-9	Listed	Listed	Not Listed	listed	Listed	Listed
7791-03-9	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
7782-42-5	Listed	Listed	Not listed	Listed	Listed	Listed
110-71-4	Listed	Listed	Not Listed	listed	Listed	Listed
108-32-7	Not Listed	listed	Not Listed	Not Listed	Not Listed	Not Listed
12597-68-1	Listed	Listed	Listed	Listed	Listed	Listed
9003-07-0	Listed	Listed	Listed	Listed	Listed	Listed
9002-84-0	Not Listed	listed	Not Listed	Not Listed	Not Listed	Not Listed
96-49-1	Listed	Listed	Not listed	Listed	Listed	Not listed
105-58-8	Listed	Not listed	Not listed	Listed	Not listed	Not listed
616-38-6	Listed	Not listed	Not listed	Not listed	Listed	Not listed

11. OTHER INFORMATION

(B) l'ONU Nom d'expédition Les piles au LITHIUM métal (y compris les piles primaires au LITHIUM) ou; Les piles au LITHIUM métal contenues dans l'équipement (y compris les piles primaires au LITHIUM) ou BATTERIES au LITHIUM métal emballées avec de l'équipement (y compris les BATTERIES primaires au LITHIUM)

(C) Classe de danger pour le transport (s) 9

(D) des groupes d'emballage (le cas échéant) II

(E) Polluant marin (Oui / Non) Non

(F) de transport en vrac (selon l'Annexe II de MARPOL 73/78 et au recueil IBC) Pas d'information disponible.

(G) Précautions particulières No information available.

(H) Les organisations régissant le transport des batteries au lithium	Zone	Méthode	Organisation	Provision SPECIALE
	Etats-Unis	Aérien, ferroviaire, routier, maritime	POINT	49 CFR Section173,185

10. INFORMATIONS RÉGLEMENTAIRES

(A) la sécurité, de santé et de l'environnement spécifique pour le produit en question

Article Information Sheet

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Fiche d'information Article

Nom du produit: Batterie au Lithium

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TSCA	Toxic Substances Control Act, The American chemical inventory
DSL	Domestic Substances List
EINECS	European Inventory of Existing Commercial chemical Substances
ENCS	Japanese Existing and New Chemical Substances
ECL	Existing Chemicals List, the Korean chemical inventory
IECSC	Inventory of existing chemical substances in China

Because all of our batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard. The information in this AIS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This AIS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this AIS should make independent judgment for the applicability of this AIS under special conditions. In these special cases, we do not assume responsibility for the damage.

----- End of the AIS -----

N ° CAS	Etats-Unis TSCA	UE Einecs	Japon ENCS	Corée ECL	Chine IECSC	Canada DSL
7439-93-2	Listé	Listé	Listé	Listé	Listé	Listé
1313-13-9	Listé	Listé	Non listé	Listé	Listé	Listé
7791-03-9	Non listé	Non listé	Non listé	Non listé	Non listé	Non listé
7782-42-5	Listé	Listé	Non listé	Listé	Listé	Listé
110-71-4	Non listé	Listé	Non listé	Listé	Listé	Non listé
108-32-7	Non listé	Listé	Non listé	Non listé	Non listé	Non listé
12597-68-1	Listé	Listé	Listé	Listé	Listé	Listé
9003-07-0	Listé	Listé	Listé	Listé	Listé	Listé
9002-84-0	Non listé	Listé	Non listé	Non listé	Non listé	Non listé
96-49-1	Listé	Listé	Non listé	Listé	Listé	Non listé
105-58-8	Listé	Non listé	Non listé	Listé	Non listé	Non listé
616-38-6	Listé	Non listé	Non listé	Non listé	Listé	Non listé

11. LES AUTRES INFORMATIONS

TSCA Toxic Substances Control Act, l'inventaire chimique américain

DSL Liste intérieure

Einecs Inventaire européen des substances chimiques existantes commerciales

ENCS Existantes et nouvelles substances chimiques japonaises

ECL Liste des produits chimiques existants, l'inventaire chimique coréenne

IECSC Inventaire des substances chimiques existantes en Chine

Parce que toutes nos batteries sont définis comme des « articles », ils sont exemptés des exigences de la norme de communication des risques. Les informations contenues dans ce AIS est fourni tous les pleinement et véritablement les données pertinentes. Cependant, les informations sont fournies sans aucune garantie sur leur extensification absolue et la précision. Cet AIS a été

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Fiche d'information Article

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préparé à des mesures préventives de sécurité pour les utilisateurs qui ont obtenu la formation professionnelle. L'utilisateur personnel qui a obtenu ce SIA devrait porter un jugement indépendant pour l'applicabilité de cette AIS dans des conditions particulières. Dans ces cas particuliers, nous n'assumons la responsabilité pour les dommages.

----- **Fin de l'AIS** -----

Product Information Sheet

Panasonic Batteries

Panasonic Industrial Company
A Division Panasonic Corporation of North America
5201 Tollview Drive, 1F-3
Rolling Meadows, IL 60008
Toll Free: 877-726-2228
Fax: 847-637-4660
Internet: www.panasonic.com/industrial/batteries-oem
e-mail: ombatteries@panasonic.com

Product: Manganese Dioxide (CR Type) Lithium Batteries
Applicable models/sizes: All CR type coin batteries

Revision: January 1, 2020

The batteries referenced herein are exempt articles and are not subject to the OSHA Hazard Communication Standard requirement. This sheet is provided as a service to our customers.

SDS

Safety Data Sheets (SDS) are a sub-requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200. This Hazard Communication Standard does not apply to various subcategories including anything defined by OSHA as an "article". OSHA has defined "article" as a manufactured item other than a fluid or particle; (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g. minute or trace amounts of a hazardous chemical, and does not pose a physical hazard or health risk to employees.

Because all of our batteries are defined as "articles", they are exempt from the requirements of the Hazard Communication Standard; hence a SDS is not required.

The following components are found in a Panasonic Manganese Dioxide (CR) Lithium battery:

Coin Cell Components	Material	Formula	
Positive Electrode	Manganese Dioxide	MnO ₂	1313-13-9
Negative Electrode	Lithium	Li	7439-93-2
Electrolyte	Propylene Carbonate-Solvent	C ₄ H ₆ O ₃	108-32-7
	1,2 Dimethoxyethane-Solvent	C ₄ H ₁₀ O ₂	110-71-4
	Lithium Perchlorate-Salt	LiClO ₄	7791-03-9

DISPOSAL

Lithium batteries are neither specifically listed nor exempted from the Federal Environmental Protection Agency (EPA) hazardous waste regulations as promulgated by the Resource Conservation and Recovery Act (RCRA). The only metal of possible concern in a lithium battery is lithium that is not a listed or characteristic toxic hazardous waste. Waste lithium batteries can be considered a reactive hazardous waste if there is a significant amount of unreacted, or unconsumed lithium remaining in the spent battery. The key to disposing of a lithium battery as a non-hazardous waste is to guarantee that it is fully or mostly discharged. Once it is discharged it can be disposed of as non-hazardous waste. You can dispose of a fully charged or partially discharged lithium battery as a hazardous waste after they are first neutralized through an approved secondary treatment. The need for a secondary treatment prior to disposal is a requirement of the U.S. Land Ban Restrictions of the Hazardous and Solid Waste Amendments of 1984. A secondary treatment center can only receive these batteries as manifested hazardous waste. The waste code for charged lithium

batteries is D003, reactive. **In either case, button cell batteries contain so little lithium that they never qualify as a reactive hazardous waste. These batteries are safe for disposal in the normal municipal waste stream.**

Disposal of large quantities of undischarged lithium batteries should be performed by permitted, professional disposal firms knowledgeable in Federal, State and local hazardous materials and hazardous waste transportation and disposal requirements. As always, households are exempt from the RCRA hazardous waste guidelines.

Notice: The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Panasonic Industrial Company makes no warranty expressed or implied.

In California, packages that contain CR lithium coin cells and the Owners/Operating Instructions of products that contain CR lithium coin cells must include the following statement: "Perchlorate Material – special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate".

TRANSPORTATION

All Panasonic lithium batteries are not subject to the requirements of the Department of Transportation (DOT) Subchapter C, Hazardous Materials Regulations if shipped in compliance with 49 CFR 173.185.

Effective January 1, 2019 all Panasonic lithium batteries can be shipped by air in accordance with International Civil Aviation Organization (ICAO), 2019-2020 edition, Section II or Section 1B or International Air Transport Association (IATA) 61th edition, Section II or Section 1B Packing Instructions (PI) 968 (Batteries), PI 969 (Batteries, packed with equipment) and PI 970 (Batteries, contained in equipment) as appropriate

All Panasonic lithium batteries are regulated by the International Maritime Organization (IMO), 2018, 39th amendment, under Special Provisions 188 and 230.

All Panasonic lithium batteries are regulated by the ADR, 2019-2020 Edition under SP 188 and the TDG under SP 34

All Panasonic lithium cells are tested and comply with the UN Model Regulations, Manual of Test and Criteria, Part III, subsection 38.3.

If you build any of our lithium cells into a battery pack, you must also assure that they are tested in accordance with the UN Model Regulations, Manual of Test and Criteria. Part III, subsection 38.3, 6th Revised Edition, Amendment 1.

If you plan on transporting any untested prototype battery packs contact your Panasonic Sales Representative for regulatory information. Check with your air carrier before shipping. Many air carriers have additional requirements.

First Aid

If you get electrolyte in your eyes, flush with water for 15 minutes without rubbing and immediately contact a physician. If you get electrolyte on your skin wash the area immediately with soap and water. If irritation continues, contact a physician. If a battery is ingested, call the Rocky Mountain Poison and Drug Center at 800-498-8666 for the US and Canada and 303-389-1300 internationally or your local poison center immediately. Lithium coin batteries lodged in the esophagus should be removed immediately. Leakage, chemical burns and perforation can occur within hours of ingestion.

General Recommendations

CAUTION: Risk of fire, explosion and burns. Do not recharge, crush, heat above 212^oF (100^oC) or incinerate.

Fire Safety

In case of fire, you can use a Class "D" fire extinguisher or other smothering agent such as Lith-X, copper powder or dry sand. If you use water, use enough to smother the fire. Cooling the exterior of the batteries will help prevent rupturing. Fire fighters should use self-contained breathing apparatus. Detailed information on fighting a lithium metal battery fire can be found in Guide 138 (Substances – Water – Reactive) of the US DOT Emergency Response Guide.

SAFETY DATA SHEET

Issuing Date No data available

Revision Date 12-May-2021

Revision Number 5



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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Omnergy CR Type Lithium Coin Cell

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Primary/Metal Batteries

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name Power Glory Tech (Shenzhen) Co., Ltd.

Supplier Address Dong Keng Industrial Zone, Dong Keng Village,
Gongming Town
Shenzhen
NA
NA
CN

Supplier Phone Number Phone:755-2754-3060
Fax:+86 755 2754-3062

Supplier Email jerry@omnergy.com.hk

Emergency telephone number

Company Emergency Phone Number +852 6093-2825

2. HAZARDS IDENTIFICATION

Classification


This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery. This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).



Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Reproductive Toxicity	Category 1B

GHS Label elements, including precautionary statements

Emergency Overview

Signal word	Danger	
Hazard Statements	Harmful if swallowed Harmful if inhaled Causes skin irritation Causes serious eye irritation May damage fertility or the unborn child	
		
This is a battery. In case of rupture: the above hazards exist.		
Appearance	Physical state	Odor
Solid	Solid	No data available

Precautionary Statements - Prevention

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Wear eye/face protection

Precautionary Statements - Response

- IF EXPOSED OR CONCERNED: Get medical advice/attention
- Specific treatment (see supplemental first aid instructions on this label)

Eyes

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If eye irritation persists: Get medical advice/attention

Skin

- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation occurs: Get medical advice/attention
- Take off contaminated clothing and wash before reuse

Inhalation

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing



Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity

53.4 % of the mixture consists of ingredient(s) of unknown toxicity

Other information

No information available

Interactions with Other Chemicals

Use of alcoholic beverages may enhance toxic effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%	Trade Secret
Manganese dioxide	1313-13-9	10 - 30	*
Supplier Trade Secret	Trade Secret	3 - 7	*
Supplier Trade Secret	Trade Secret	1 - 5	*
Graphite	7782-42-5	1 - 5	*
Lithium	7439-93-2	1 - 5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures**General Advice**

Show this safety data sheet to the doctor in attendance.

Eye contact

Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin contact

Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Inhalation

Remove to fresh air. If symptoms persist, call a physician.

Ingestion

Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.



Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

DO NOT USE WATER OR FOAM.

Specific hazards arising from the chemical

Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. Some are transported in highly flammable liquid. Runoff may create fire or explosion hazard.

Hazardous Combustion Products

Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact No. **Sensitivity**

to Static Discharge No.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes.

Other Information DO NOT GET WATER on spilled substance or inside containers.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.



7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

Conditions for safe storage, including any incompatibilities

Storage Keep container tightly closed.

Incompatible Products None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese dioxide 1313-13-9	TWA: 0.02 mg/m ³ Mn respirable particulate matter TWA: 0.1 mg/m ³ Mn inhalable particulate matter	(vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn
Graphite 7782-42-5	TWA: 2 mg/m ³ respirable particulate matter all forms except graphite fibers	TWA: 15 mg/m ³ total dust synthetic TWA: 5 mg/m ³ respirable fraction synthetic (vacated) TWA: 2.5 mg/m ³ respirable dust natural (vacated) TWA: 10 mg/m ³ total dust synthetic (vacated) TWA: 5 mg/m ³ respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m ³ TWA: 2.5 mg/m ³ respirable dust

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.



Skin and body protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Respiratory protection

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state	Solid		
Appearance	Solid	Odor	No data available
Color	No information available	Odor Threshold	Not applicable
Property	Values	Remarks	Method
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Specific Gravity	No data available	None known	
Water Solubility	Insoluble		
Solubility in other solvents	No data available	None known	
Partition coefficient: n-octanol/water	NA		
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity	No data available	None known	
Explosive properties	No data available		
Oxidizing properties	No data available		

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.



Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

None known.

Incompatible materials

None known.

Hazardous Decomposition Products

Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information****Inhalation**

Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).

Eye contact

Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain. May cause temporary eye irritation.

Skin contact

Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). Irritating to skin. Prolonged contact may cause redness and irritation.

Ingestion

Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Manganese dioxide 1313-13-9	= 9000 mg/kg (Rat)	-	-
Supplier Trade Secret	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Supplier Trade Secret	> 4000 mg/kg (Rat) = 775 mg/kg (Rat)	1000 - 2000 mg/kg (Rabbit)	20 - 63 mg/L (Rat) 6 h

Information on toxicological effects**Symptoms**

Erythema (skin redness). May cause redness and tearing of the eyes. Coughing and/ or wheezing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Sensitization**

No information available.

Mutagenic Effects

No information available.

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Reproductive toxicity	Contains a known or suspected reproductive toxin.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Chronic Toxicity	No known effect based on information supplied.
Target Organ Effects	None known.
Aspiration Hazard	No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)

732.00 mg/kg

ATEmix (dermal)

11,095.00 mg/kg (ATE)

ATEmix (inhalation-gas)

6,316.00 ppm (4 hr)

ATEmix (inhalation-dust/mist)

2.11 mg/l

ATEmix (inhalation-vapor)

15.44 ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Supplier Trade Secret	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio) 96h LC50: = 5300 mg/L (Leuciscus idus)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L

Persistence and Degradability

No information available.

Bioaccumulation

Chemical name	Log Pow
Manganese dioxide 1313-13-9	<0
Supplier Trade Secret	0.48

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods



Disposal methods

Disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging Dispose of contents/containers in accordance with local regulations.

California Waste Codes 141

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste
Lithium 7439-93-2	Corrosive Ignitable Reactive

14. TRANSPORT INFORMATION

Note: The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule)
Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

DOT
Proper Shipping Name NOT REGULATED
Emergency Response Guide Number NON-REGULATED
 138

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA
Proper Shipping Name NON REGULATED
Hazard Class N/A
ERG Code 9FZ

IMDG/IMO
Proper Shipping Name Not regulated
Hazard Class NON-REGULATED PER SP 188
EmS-No. N/A
 F-A, S-I



RID Not regulated

ADR Not regulated

Tunnel restriction code (E)

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Not determined

DSL Not determined

IECSC

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Manganese dioxide - 1313-13-9	1313-13-9	10 - 30	1.0
Supplier Trade Secret -		1 - 5	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Manganese dioxide 1313-13-9	X		X	X	X
Supplier Trade Secret	X	X	X	X	X
Graphite 7782-42-5	X	X	X		
Lithium 7439-93-2	X	X	X		

International Regulations

Mexico

National occupational exposure limits

Chemical name	Carcinogen Status	Exposure Limits
Manganese dioxide		Mexico: TWA= 0.2 mg/m ³
Graphite		Mexico: TWA= 2 mg/m ³

Mexico - Occupational Exposure Limits - Carcinogens

Canada

WHMIS Hazard Class

Not determined

16. OTHER INFORMATION

NFPA	Health Hazards 1	Flammability 0	Instability 0	Physical and Chemical Hazards W Personal Protection X
HMIS	Health Hazards 0	Flammability 0	Physical Hazard 0	

Prepared By Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501



Revision Date 12-May-2021 (Revised by Power Glory)
Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet